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Author(s): Lindroos, Emmi; Räikkönen, Eija; Malinen, Kaisa; Rönkä, Anna K.

Title: Circular causality in daily coparenting processes among first-time parents

Year: 2024

Version: Accepted version (Final draft)

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Please cite the original version:

Lindroos, E., Räikkönen, E., Malinen, K., & Rönkä, A. K. (2024). Circular causality in daily coparenting processes among first-time parents. *Journal of Family Psychology*, Early online. <https://doi.org/10.1037/fam0001227>

Circular Causality in Daily Coparenting Processes among First-Time Parents

Abstract

Although coparenting has been widely studied, little is known about the daily processes of coparenting between mothers and fathers in early parenthood. Based on family systems theory and the ecological model of coparenting, we investigated new parents' day-to-day within-family processes of cooperative and tensioned coparenting. Mothers and fathers from 144 Finnish first-time couples completed daily mobile diaries for 7 consecutive days when their firstborn was 4-6 months old. The random intercept cross-lagged panel model showed three types of within-family processes in daily coparenting, which we named *continuity*, *spread*, and *shift*. *Continuity* in cooperative coparenting occurred when a parent's previous day cooperative coparenting positively predicted his/her own cooperative coparenting experiences the next day. We also found that coparenting experiences *spread* from one spouse to another: a parent's cooperative coparenting on the previous day negatively predicted his/her spouse's experiences of tensioned coparenting the following day. Finally, daily coparenting experiences also *shifted* from day to day: one parent's experience of tensioned coparenting the previous day positively predicted that parent's cooperative coparenting experiences the next day. No gender differences were found. These findings emphasize that the two daily coparenting dimensions seem to operate partly differently in daily life as cooperative coparenting was slightly more often a cause and consequence in the observed processes than tensioned coparenting. Therefore, it seems that interventions should focus on enhancing cooperative coparenting. Moreover, the new concepts of *continuity*, *spread*, and *shift* are proposed as better descriptions of the three daily processes.

Keywords: coparenting, dyadic data, daily diary, first-time parents, random-intercept cross-lagged panel model

Introduction

The transition to parenthood entails many changes in a couple's daily life, as they take on the new roles of parent and coparent. Coparenting refers to parental cooperation in relation to caring for a child (Feinberg, 2003). During the first six months of parenthood, parents' coparenting experiences have on average been found to be positive and stable (Van Egeren, 2004), although considerable fluctuation in coparenting quality also occurs on the daily level (e.g., Le et al., 2019), as life with a first-born entails a lot of change and variation. The early stage of coparenting has been shown to predict subsequent coparenting quality (e.g., Le et al., 2016) which, in turn, is associated with parents' individual parenting (e.g., Morrill et al., 2010), child wellbeing (e.g., Teubert & Pinquart, 2010) and couple relationship quality (e.g., Durtschi et al., 2017). It is, therefore, crucial to understand the early development of coparenting.

Although coparenting has been relatively widely studied longitudinally (e.g., Le et al., 2016; Schoppe-Sullivan et al., 2004), most studies have examined coparenting with a fairly large interval between the assessment points. While these studies have increased understanding of the development of coparenting over longer periods, they do not reveal how coparenting evolves as a family process in daily life. Our study aimed to extend previous coparenting research by examining possible processes of daily coparenting occurring within the family among Finnish first-time parents with a newborn. Examining these coparenting processes from a dyadic perspective is important as it allows not only individual parents' processes to be explored, but also internal processes within families. As these processes can be either beneficial or detrimental to family functioning, identifying them is essential for targeting preventions and interventions in the early stages of parenthood (McDaniel, 2016).

Coparenting as a Family Subsystem

The ecological model of coparenting (Feinberg, 2003; Feinberg et al., 2012) conceptualizes coparenting as a multidimensional construct, including agreement on childrearing, supporting or undermining one's partner's parenting, division of labor, joint family management, and parenting-based closeness. Although these dimensions are theoretically distinct (Feinberg, 2003), empirically they have been found to be moderately interlinked (Feinberg et al., 2012).

In light of the family systems theory (Cox & Paley, 1997; Minuchin, 1985), coparenting can be understood in a more nuanced way. The theory sees coparenting as a family subsystem that interacts with other family subsystems, such as the couple relationship. Although empirical research supports their interaction (e.g., Feinberg et al., 2012; Le et al., 2019; Le et al., 2016), coparenting and the couple relationship have been shown to be separate phenomena (e.g., Feinberg, 2003; Feinberg et al., 2012): the couple relationship is a dyadic subsystem of two adults whereas the coparenting also includes the child. This is further supported by a finding showing that coparenting predicts child adjustment even after controlling for parenting and couple relationship quality (Teubert & Pinquart, 2010).

Daily Coparenting

Despite the moderate rank-order stability in coparenting over longer time spans (Feinberg et al., 2012; Le et al., 2016; Schoppe-Sullivan et al., 2004), studies on daily coparenting have shown considerable fluctuation in parents' reports of coparenting (e.g., McDaniel et al., 2017) in response to everyday experiences such as hassles in childrearing, interparental disagreements, and other such stressors. However, coparenting has rarely been studied on a day-to-day level. The few existing studies provide somewhat limited insights into the phenomenon, as they have investigated daily coparenting either as a one-dimensional construct (McDaniel et al., 2018; Nelson & Holub, 2022) or measured it with only one item (Le et al., 2019; 2022). However, McDaniel and colleagues (2017) suggest based on

Feinberg's (2003) coparenting theory, that as a daily phenomenon coparenting consists of two interrelated dimensions, originally labelled as 'positive' and 'negative' coparenting. The model of daily coparenting (McDaniel et al., 2017) contains fewer dimensions than the original coparenting theory (Feinberg, 2003) as on average some negative coparenting behaviors, such as conflict and undermining, seem to occur relatively rarely (Feinberg et al., 2012) and therefore cannot be measured on a daily level in a valid way. In this study, we adopt the two-dimensional conceptualization of daily coparenting proposed by McDaniel et al. However, we use the terms 'cooperative' and 'tensioned' daily coparenting when referring to positive and negative daily coparenting, respectively, to better describe the content of these two dimensions and highlight their distinct roles in daily coparenting dynamics.

Cooperative daily coparenting refers to cooperation, support, and upholding agreed rules. Thus, high cooperative daily coparenting means that spouses cooperate, support, and trust each other in parenting, can ask each other for help divide parenting tasks fairly, uphold each other's rules, and feel they are part of a parenting team. Low cooperation, in turn, is characterized by a low level of these adaptive behaviors and experiences. The other dimension, tensioned daily coparenting, refers to disagreement and hostility in parenting. The high end of this dimension means that the spouses have different ideas about parenting: they are critical or hostile towards each other and get upset with each other over parenting issues. In contrast, low tension is characterized by a low level of these maladaptive behaviors and experiences.

Cooperative and tensioned daily coparenting are related dimensions but not the opposite ends of the same continuum (McDaniel et al., 2017). Previous research over longer stretches of time has shown moderate correlations between the coparenting dimensions (range .24-.73 for mothers, .13-.73 for fathers; Feinberg et al., 2012), whereas on the daily level their correlation seems to be fairly low (-.29 for mothers, -.27 for fathers; McDaniel et

al., 2017). Thus, on the daily level, there seems to be more unpredictability in the links between the coparenting dimensions. Consequently, it may be that high (or low) levels of both daily cooperative and tensioned coparenting can be present on the same day. For example, parents may disagree on childrearing practices and still find ways to support each other in parenting and negotiate childcare and family responsibilities in a satisfactory manner during the same day. It may also be that even if parents agree on their childrearing practices, they may nevertheless, for some reason, be unable to ask each other for help with parenting and not necessarily feel part of a real parenting team during the same day. Moreover, distinguishing the two dimensions of daily coparenting is important because they may operate differently within and across spouses on different days (McDaniel, 2016; McDaniel et al., 2017).

Processes in Dyadic Daily Coparenting

The family systems theory (Cox & Paley, 1997; Minuchin, 1985) approaches processes unfolding in families via the concept of *circular causality*. It suggests that experiences and behaviors in the family should be considered as situations in which many forces mutually influence each other such that no clear beginning or end can be traced, meaning that interactional patterns (i.e., loops) are set in motion. In the daily coparenting context, this means that the two dimensions are considered as both cause and consequence, thus contributing reciprocally to each other over time.

In previous family research (e.g., Bolger et al., 1989; Gao & Cummings, 2019; Hamaker et al., 2015; Kouros et al., 2014) three concepts in particular have been used to describe interactional patterns in families: carryover (i.e., within-person stability in a single phenomenon), spillover (i.e., within-person transfer between two phenomena), and crossover (between-person transfer within or between phenomena). These concepts present the challenge that they are not fully comparable: while carryover and spillover take both the

phenomenon-level and intra-/interpersonal effects into account, crossover focuses only on the intra-/interpersonal effects of the pattern.

We consider potential circular causality in daily coparenting by proposing three new within-family processes based on earlier family research: *continuity*, *spread*, and *shift*. These processes refine previous concepts and their central aspects by illustrating how coparenting experiences are transferred within the family from day to day. Thus, all three processes focus on the phenomenon. Moreover, we propose, in line with the widely used actor-partner interdependence model for dyadic linkages (Kenny et al., 2006), that all three processes can occur both *within* a parent (i.e., an actor effect) and *across* spouses (i.e., partner effect). The processes and their key elements are summarized in Table 1.

---Table 1 here---

The first proposed within-family process, *continuity*, refers to a process where experiences in one dimension of daily coparenting on one day positively predict similar experiences in the same dimension the next day, either within the same parent (within-dimension actor effect, i.e., carryover in previous research) or across spouses (within-dimension partner effect, i.e., crossover in previous research) (Table 1). This means that the atmosphere of coparenting remains similar. Indeed, previous research has shown continuity both as an actor and a partner effect in parents' experiences of coparenting support from day to day (Le et al., 2019). Bearing in mind the differential meanings attributed to high/low cooperation and tension, continuity may mean that either similar positive (e.g., high levels of cooperation) or negative experiences (e.g., high levels of tension) are likely to endure to the subsequent day.

The second possible within-family process in daily coparenting is *spread* which refers to a process where previous-day experiences from one dimension of daily coparenting are transferred to another dimension the next day, either within the same parent (between-

dimension actor effect, i.e., spillover in previous research) or from one spouse to the other (between-dimension partner effect, i.e., crossover in previous research) (Table 1). As in continuity, the atmosphere of coparenting remains similar in spread, but unlike continuity, spread occurs between the two dimensions. Empirical evidence on spread processes shows, for example, that experiences of marital quality are transferred to similar types of experiences in the parent-child dyad on the same day (e.g., Gao & Cummings, 2019; Kouros et al., 2014). In daily coparenting, the spread can be beneficial; for example, if spouses share parenting tasks fairly and are able to ask each other for help with parenting (i.e., high cooperation) on one day and this is reflected the next day in little disagreement or hostility between the parents (i.e., low tension). Conversely, spread can be detrimental; for example, if a lot of disagreement and hostility between parents on one day means that they continue finding it difficult to support each other or cooperate in parenting the next day.

The third daily process, *shifting*, assumes a change in the coparenting atmosphere (Table 1). Thus, shifting can appear either as a change from a positive to negative atmosphere or vice versa. Moreover, it can occur both within the same coparenting dimension (no corresponding term in previous research) and between the two dimensions (i.e., spillover in previous research) as within the same parent (an actor effect) or across spouses (a partner effect, i.e., crossover in previous research). A parent can, for example, try to compensate for the previous day's disagreements and conflicts related to parenting by trying to invest more in cooperative actions with their spouse. These actions will manifest the next day as more positive coparenting perceptions. Such a compensation process in family relationships has also been identified by, for example, Gao and Cummings (2019) and Kouros et al. (2014). Hypothetically, however, the coparenting atmosphere could also shift in the opposite direction, i.e., the previous day's positive coparenting experiences could shift in a negative direction the next day. This could be due to lack of resources, for example in a situation

where one parent has invested in supporting the other parent and maintaining a harmonious coparenting atmosphere the previous day, there may be insufficient resources left for taking the same actions the following day.

Theoretically, shift is a competing process to continuity and spread as shift describes a change in the coparenting atmosphere, whereas the atmosphere remains the same in continuity and spread, (Table 1). More specifically, shift competes with continuity when the focus is on only one coparenting dimension, whereas if the focus is on both dimensions, then the competing processes are shift and spread. Methodologically, the idea of competing processes is indicated by the sign of the statistical association. When within-dimension associations are examined, shift results if the regression coefficient is negative, while continuity results if the regression coefficient is positive. When the associations between the two daily coparenting dimensions are of interest, a positive coefficient would indicate shift whereas a negative coefficient would indicate spread. However, these competing processes are not necessarily mutually exclusive as they can all appear in the family depending on the family relationship and time frame (Kouros et al., 2014). The previous, albeit limited, empirical daily-level research provides preliminary support only for the manifestation of the continuity and interdimensional shift processes from one day to next whereas spread is suggested to occur only within the same day (e.g., Gao & Cummings, 2019; Kouros et al., 2014; Le et al., 2019).

Gender Perspective on Coparenting

Parental gender is suggested to be one of the key factors in understanding coparenting dynamics (Feinberg, 2003). Empirical evidence consistently suggests that although spouses evaluate the same coparenting atmosphere, mothers and fathers may experience their coparenting relationship in partially different ways. Accordingly, Feinberg and colleagues (2019) found that on days when fathers spent more time on chores, mothers reported greater

couple closeness while fathers reported more arguments. Additionally, fathers have been shown to be more satisfied than mothers with coparenting in early parenthood (McDaniel & Teti, 2012; Van Egeren, 2004).

The family systems theory (Cox & Paley, 1997; Minuchin, 1985) proposes that family members influence each other reciprocally, meaning that each parent can be both the “sender” and “receiver” of coparenting experiences. Nevertheless, the theory has been argued to overlook the influence on the family system of potentially different and unequal power relations between parents based on their gender (Allen & Henderson, 2017). Even empirical findings on who is the sender and who is the receiver in the family system are mixed. Several older studies on daily emotions have shown that transmission from men to women is more common than vice versa, a phenomenon that has been explained by the exercise of power over their spouses by men (e.g., Larson & Almeida, 1999). In contrast, a recent coparenting study found that mothers’ coparenting support predicted fathers’ coparenting support but not vice versa (Le et al., 2019). This may be related to the central position of mothers in relation to parenting practices (Kotila et al., 2013; McDaniel & Teti, 2012), leading the mother to play a stronger role than the father in transmitting the experiences of coparenting to one’s spouse. Taken together, the literature on the role of parental gender in the transmission of coparenting experiences from one spouse to another appears limited and inconsistent.

The meaning of gender in coparenting is also shaped by the research country context. The present study was conducted in Finland, which is a contradictory context for coparenting due to a simultaneous emphasis on gender equality and mother-centeredness (Raudasoja et al., 2022). The emphasis on gender equality can be seen, for example, in the generous parental leaves available for both parents and in the recent reform of the parental leave model, which sought to allocate more parental leave days to fathers (Social Insurance Institution of Finland, 2022b). Despite these innovations, Finnish mothers clearly take up

most of the parental leaves, which extend to around one year (Social Insurance Institution of Finland, 2022a) and are therefore at home with their children more than Finnish fathers.

Given such mother-centeredness during early parenthood, it is reasonable to assume that mothers and fathers differ in their daily coparenting processes.

The Present Study

This study aimed to deepen understanding of the within-family processes of daily coparenting during the transition to parenthood by utilizing dyadic intensive repeated measures (IRM) data on Finnish first-time parents whose firstborn was about 4-6 months old. We operationalized daily coparenting as two interrelated dimensions (McDaniel et al., 2017), namely cooperative and tensioned coparenting, and focused on examining the potential day-to-day processes between these dimensions within one family subsystem, i.e., coparenting, as experienced by both parents. As coparenting is about the interaction between (at least) two adults (e.g., Feinberg, 2003), we focused on within-family processes.

Owing to the limited previous daily-level coparenting research on within-family processes, we set three tentative hypotheses, based mainly on theoretical propositions (Cox & Paley, 1997; Feinberg, 2003) and the findings of the few existing empirical studies. The hypotheses are summarized in Table 1.

Our first hypothesis concerns within-dimension actor effects (Table 1, hypothesis 1). While previous research has shown preliminary evidence for day-to-day within-parent continuity in the same coparenting dimension (Le et al., 2019), to our knowledge no empirical evidence exists on the within-parent shift process. Therefore, we assumed *continuity* within a parent instead of shift. That is, we expected that one parent's experiences of cooperative/tensioned coparenting on one day to positively predict the same parent's experiences in the same dimension the next day. This means that similar experiences of daily coparenting continue from day to day in the same parent.

Our second hypothesis addresses within-dimension partner effects (Table 1, hypothesis 2). While Le et al. (2019) have reported continuity between spouses, we have not found earlier research supporting the shift process. Therefore, we also assumed *continuity* between spouses instead of shift. That is, one parent's experiences of cooperative/tensioned coparenting on one day were expected to positively predict her/his spouse's experiences in the same dimension the next day. Again, similar experiences of daily coparenting continue from day-to-day, but now between spouses.

Our third hypothesis concerns between-dimension actor effects (Table 1, hypothesis 3). Previous family research has shown preliminary support for the shift process between phenomena within the same parent from day to day, whereas only a same-day effect has been found for the spread process between phenomena within the same parent (e.g., Gao & Cummings, 2019; Kouros et al., 2014). As our focus was on day-to-day predictions, we assumed a *shift* instead of spread process within a parent; that is, one parent's experiences of one dimension of coparenting on one day was expected to positively predict the same parent's experiences of the other dimension the next day. This means that negative (positive) experiences shift to positive (negative) experiences from day-to-day within the same parent.

Moreover, we examined between-dimension partner effects (Table 1) in which one parent's experiences of one dimension of coparenting on one day predicts her/his spouse's experiences of the other dimension the next day. This effect may appear either as a *spread* (i.e., the coparenting atmosphere remains same) or *shift* (i.e., the coparenting atmosphere changes) process. However, given the lack of empirical family studies on this effect, we consider our focus on the between-dimension partner effect to be exploratory only and therefore did not set a hypothesis on it.

Our final set of tentative hypotheses concern gender differences in hypotheses 1, 2, and 3. Accordingly, we expected daily actor effects in continuity and shift to be found among

both parents, but that the linkages would be stronger for mothers than fathers (Table 1, hypotheses 4.1 and 4.3). These assumptions were based on findings showing stronger involvement by mothers than fathers in parenting activities in general (Kotila et al., 2013; McDaniel & Teti, 2012) and, especially, on the intensive motherhood discourse that characterizes the Finnish context (Raudasoja et al., 2022). On the issue of continuity in daily partner effects, we expected, based on the findings of Le et al. (2019), that continuity would occur from mothers to fathers, but not vice versa (Hypothesis 4.2 in Table 1).

Method

Participants and Procedure

Our study formed part of an ongoing longitudinal study “Learning to coparent: A longitudinal cross-national study on construction of coparenting in transition to parenthood (CopaGloba)” conducted by an international consortium led by University of Jyväskylä and JAMK University of Applied Sciences in Finland with the aim of extending knowledge on the construction of coparenting in early parenthood. The study was approved by the Human Sciences Ethics Committee of the University of Jyväskylä (January 7, 2020).

We gathered IRM data via a mobile diary in 2020–2021. Participants were couples whose firstborn was about 4-6 months old. The parents answered the mobile diary questions for 7 consecutive days (all starting from Monday), and their answers had to be given in Finnish. Mothers and fathers completed identical diaries independently. The diaries were code-numbered to enable spouses to be matched. Participants answered the questions via the mobile tool eKoutsi once a day in the evening before going to bed. A daily invitation to answer questions was sent to the participants via a text message or email. Participants answered via a web link in the message and had four hours in which to answer the questions.

We recruited our participants in two phases. In the first phase, we recruited couples expecting their first child through maternity clinics in four cities (119 984-292 796

inhabitants) from the 10 largest in Finland (OSF, 2020). However, owing to the COVID-19 pandemic, the maternity clinics were unable to provide family classes and hence the first recruitment phase resulted in too few ($n = 46$) participating couples. We then recruited 98 couples through targeted advertising in social media.

The final sample comprised 144 Finnish couples ($N = 275$ participants, 142 mothers and 133 fathers) in 131 of which both spouses and in 13 of which only one spouse responded to the mobile diary (11 mothers and 2 fathers). Of the 144 couples, 143 were heterosexual couples and one was a same-sex couple. For clarity, we use the term ‘mother’ to refer to the parent who gave birth to the child, and ‘father’ to refer the mother’s spouse. Most of the mothers (93%) and fathers (78%) responded to the diary at least six days out of seven (range of missing data for mothers 2.8%–9% and for fathers 15.3%–23.6%).

The recruited couples had been together for 6.8 years on average ($SD = 3.8$, range 1–17): 58 percent were married or in a registered partnership, and 42 percent were cohabiting. The proportion of married couples or couples in a registered partnership was higher in our sample than among Finnish first-time parents in the general population in 2020 (43%) (OSF, 2021b). Although no official statistics exist on the number of cohabiting couples, most of the children born outside marriage in Finland are born to cohabiting parents (OSF, 2021b). Most of our mothers (84.1%) and fathers (70.9%) had a bachelor’s degree or higher, which was higher than the proportion for the Finnish first-time mothers (46.1%) and fathers (38.0%) in the general population in 2020 (OSF, 2021c). Most of the mothers (91.4%) were on parental leave, 4.3 percent were employed or self-employed, and 4.2 percent were not employed (e.g., students or unemployed). Most of the fathers (92.1%) were employed or self-employed, 7.9 percent were not employed (e.g., students or unemployed), and none of the fathers was on parental leave. This is a very typical in Finland among the families with a newborn. At the time of our data collection in 2020, mothers took up 90 percent of all parental leave days and

fathers only 10 percent (Social Insurance Institution of Finland, 2022b). At the beginning of the *Learning to coparent: A longitudinal cross-national study on construction of coparenting in transition to parenthood* study (i.e., during the last trimester of pregnancy) the mothers' mean age was 29.8 years ($SD = 3.9$, range: 20–40) and the fathers' mean ages 31.2 years ($SD = 4.0$, range: 20–42), which corresponds to the average age of those who became mothers (29.7 years) and fathers (31.6 years) for the first time in Finland in 2020 (OSF, 2021a).

Measures

Daily coparenting

Daily coparenting was assessed by the Daily Coparenting Scale (McDaniel et al., 2017) which contains 7 items on positive coparenting (labeled here as 'cooperative daily coparenting'; items 1–4, 7–9) and 3 items on negative coparenting (labeled here as 'tensioned daily coparenting'; items 5, 6, 10) (see Table 2 for the items). The response scale ranged from 1 (strongly disagree) to 7 (strongly agree). Because no Finnish version of the D-Cop was available, the scale was translated by a certified translator and a backtranslation was made. In addition, we piloted the scale to ensure that the items would work in Finland. A mean score for both dimensions of coparenting was computed separately for mothers and fathers on each day. Due to the complexity of the analyses, we used mean scores instead of latent factors. The ω reliabilities are shown in Table 2.

---Table 2 here---

Data Analysis

To examine possible daily coparenting within-family processes, we applied random intercept cross-lagged panel modeling (RI-CLPM) (Hamaker et al., 2015) which allowed us to separate variation in the two dimensions of coparenting into between- and within-family variation in order to capture more accurately the dyadic processes in daily coparenting. The analyses were based on mothers' and fathers' mean scores for cooperative and tensioned

coparenting on seven consecutive days. Descriptive statistics for these variables are shown in Table 2 and Appendix 1.

Our RI-CLPM included four latent factors on the between-family level: mothers' and fathers' cooperative (CM and CF, respectively) and tensioned (TM and TF) coparenting across time. These factors were random intercepts meaning, that all loadings of these factors on the corresponding mean scores were fixed to 1 (Hamaker et al., 2015). These factors represented the systematic differences between parents on the levels of cooperative and tensioned coparenting over the diary week (i.e., rank-order stability), and they were allowed to correlate with each other to account for the overall relations between the constructs.

Based on the residual variances in the mean scores of cooperative and tensioned coparenting not captured by the random intercept factors, we further specified 28 latent factors at the within-family level: one factor per day for each dimension of coparenting separately for mothers and fathers. These within-level factors measured the extent to which the parent deviated from their personal average on a given day (Hamaker et al., 2015). We included all autoregressive and cross-lagged paths at the within-level. Their connections to the tentative hypotheses are summarized in Table 1 (see 'Path in RI-CLPM' column). The autoregressive paths denote the first hypothesis (i.e., continuity actor effect). In turn, the cross-lagged paths represent hypotheses 2 (i.e., the partner effect in continuity) and 3 (i.e., the actor effect in shifting), as well as the exploratory examination of the partner effect in spreading vs. shifting. Finally, we estimated the covariances between the day-1 measures and same-day correlations between the residual variances of the within-level factors in the model.

As our key focus was only on day-to-day continuity, spread, and shift effects at the within-family level, we only report them in the Results section and interpret the size of the effects according to the benchmark values of .03, .07, and .12, indicating small, medium, and large effects, respectively (Orth et al., 2022). However, inclusion of the between-level and the

within-level same-day connections in the modeling was theoretically reasonable (Feinberg, 2003), and statistically essential to obtain valid within-level estimates (Hamaker et al., 2015). The between-level and the same-day results are presented in Appendix 2.

Modeling was begun by estimating a fully constrained RI-CLPM (Table 3: model 0), in which all the aforementioned paths were constrained to be time- and gender-invariant. We then tested each hypothesis of daily coparenting separately via two steps. In step a), we released a set of time-invariance constraints (see models 1a, 2a, 3a, and 4a in Table 3), denoting a particular hypothesized process, and checked the global fit of the model and any change in the fit statistics. If release of the constraints resulted in a significant improvement in fit compared to the fully constrained model, then the less constrained step a) model was retained. Otherwise, the constraints were retained in the model (i.e., the fully constrained model 0 was favored). Then, in step b) we examined the gender differences related to the specific process hypothesis by releasing the corresponding set of gender-invariance constraints (Table 3: models 1b, 2b, 3b, and 4b), and checked any change in the fit statistics. If the improvement in fit was significant compared to the fully constrained model, then the less constrained step b) model was retained; otherwise, the gender-invariance constraints were retained in the model. After conducting all these phases for each hypothesis and also for the exploratory partner effect, the results showed that the fully constrained model (Table 3) fitted the data best, $\chi^2(350, N = 144) = 468.92, p < .001, CFI = .936, TLI = .931, RMSEA = .049$.

---Table 3 here---

The fit of the model was evaluated using the χ^2 test, Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and root mean square error of approximation (RMSEA). For a model to be acceptable, the χ^2 test should be non-significant, $RMSEA < .08$ and CFI and TLI $> .90$. We compared the nested RI-CLPM models using the χ^2 difference test (Satorra &

Bentler, 2001) and change (Δ) in the RMSEA, CFI, and TLI (Chen, 2007). The non-significant χ^2 difference test, $\Delta\text{RMSEA} \leq .015$, $\Delta\text{CFI} \leq .01$, and $\Delta\text{TLI} \leq .01$ support the model with more equality constraints over time/between genders over the less constrained model. However, we placed more emphasis on changes in the other fit indices than the χ^2 difference test, as this test is known to be sensitive to, for example, model complexity.

All analyses were conducted using Mplus version 8.6 (Muthén & Muthén, 1998–2017). As our coparenting variables were skewed, we estimated the models using a maximum likelihood estimator with robust standard errors. Owing to missing data, the number of parents varied according to the daily number of respondents. Missingness was handled by using the full information maximum likelihood procedure, which uses all the information in the data without imputing the missing values (Enders, 2010).

Transparency and Openness

We have reported here how we determined our sample size, all data exclusions, all manipulations, and all the measures used in the study. The data will be openly published in the Finnish Social Science Data Archive after the *Learning to coparent: A longitudinal cross-national study on construction of coparenting in transition to parenthood* project ends. The study materials and analysis code are available upon reasonable request by emailing the corresponding author. This study was not preregistered.

Results

Continuity Actor Effect and Gender Differences

First, we investigated whether daily coparenting within the same parent showed continuity (i.e., within-dimension actor effect). The results revealed a statistically significant autoregression in cooperative coparenting for both parents, which recurred every day of the study week (Figure 1). Namely, both parents' own cooperative coparenting on the previous day positively predicted their own cooperative coparenting on the next day, meaning that

parents who reported more (less) cooperative coparenting relative to one's own expected mean level on any one day, were also likely to perceive higher (lower) cooperative coparenting relative to one's own expected mean level the next day. The effect size for these estimates was large. However, we did not find any statistically significant associations for tensioned coparenting. Thus, our results partially supported hypothesis 1. Continuity on tensioned daily coparenting was not supported.

We found no gender differences in cooperative continuity effects. This means that the strength of the continuity effect for cooperation was similar across the spouses and hence hypothesis 4.1 was not supported.

---Figure 1 here---

Continuity Partner Effect and Gender Differences

Second, we studied whether daily coparenting from one parent to another showed continuity (i.e., between-dimension partner effect). The results showed no statistically significant associations. Thus, hypothesis 2 was not supported by our data.

Shifting Actor Effect and Gender Differences

Third, we investigated whether shifting occurred in daily coparenting within the same parent (i.e., an actor effect). One statistically significant day-to-day within-parent cross-lagged effect for both parents was found that also recurred every day of the study week (Figure 1). Both parents' tensioned coparenting on any one day positively predicted their own cooperative coparenting the next day. That is, when parents reported more (less) tensioned coparenting relative to their own expected mean level on a particular day, they were also likely to perceive higher (lower) cooperative coparenting relative to their own expected mean level the next day. The effect size for these estimates was medium. No associations between previous day cooperative coparenting and the next day tensioned coparenting were found. Thus, our results gave some support for hypothesis 3.

We found no gender differences in these shift effects, meaning that the strength of the shift effect from tensioned coparenting to cooperative coparenting was similar across the spouses. Therefore, hypothesis 4.3 favoring mothers was not supported.

Exploration of Spreading vs. Shifting Partner Effect and Gender Differences

Finally, we explored whether spreading or shifting occurred in daily coparenting from one parent to another (i.e., partner effect). The results showed a statistically significant day-to-day cross-lagged effect between spouses, which recurred every day of the study week and occurred both from mothers to fathers and from fathers to mothers (Figure 1). One parent's cooperative coparenting on any one day negatively predicted their spouses tensioned coparenting the next day. That is, when parents perceived more (less) cooperative coparenting relative to their own expected mean level on any one day, their spouses were also likely to have perceptions of lower (higher) tensioned coparenting relative to their own expected mean level the next day. The effect size for these estimates was medium, except one from Friday to Saturday, which was small. No cross-lagged associations were found from tensioned coparenting to cooperative coparenting. Thus, our results partially supported the spread process over the shift process, as the sign of the associations found was negative.

No gender differences were found in the aforementioned spread effects, indicating that the associations from mother to father were as strong as those from father to mother.

Discussion

This study, using intensive repeated measures data from couples in early parenthood and drawing on the notion of circular causality in family life (Cox & Paley, 1997), is the first to examine potential dyadic daily coparenting processes. The findings contribute to the coparenting literature by showing that the two dimensions of daily coparenting, cooperation, and tension, seem to operate in partly different ways in family processes. Another novel finding is that experiences of cooperative coparenting seem to play a more central role in

daily coparenting, as they were linked not only to experiences of cooperative coparenting but also to experiences of tensioned coparenting from day to day. Moreover, the current study refines previous conceptual understanding of within-family processes at the daily level by introducing three new terms, *continuity*, *spread*, and *shift*, which more clearly describe the transfer of daily coparenting experiences than the terms previously used (i.e., carryover, spillover, and crossover). Finally, the findings revealed similarity between mothers and fathers in their daily coparenting processes.

Day-to-day Processes of Continuity, Spread, and Shift

We found some support for all three previously identified daily within-family processes (e.g., Cox & Paley, 1997; Kouros et al., 2014) although we only tentatively hypothesized two: continuity and shift. Specifically, we found one *continuity* process: parents' experiences of cooperative coparenting the previous day predicted their similar experiences of cooperative coparenting the next day (i.e., carryover in previous research); one *spread* process: when parents perceived elevated (damped) cooperative coparenting relative to their own mean on any one day, their spouses were also likely to perceive damped (elevated) tensioned coparenting relative to their own mean the next day (i.e., crossover in previous research); and one *shift* process: when parents reported elevated (damped) tensioned coparenting relative to their own mean on any one day, they were also likely to perceive elevated (damped) cooperative coparenting relative to their own mean the next day. Together, these findings only partly support the idea of circular causality in the family systems theory (Cox & Paley, 1997; Minuchin, 1985).

No other continuity, spread or shift processes were found. Thus, our findings suggest that in daily coparenting in early parenthood only a few factors seem to be predicted by previous day coparenting experiences. In early parenthood, it is possible that coparenting practices between the parents have not yet been established or because the baby's circadian

rhythm may still be irregular. These may explain the unpredictability found in coparenting processes. Whether similar processes and a similar level of unpredictability continue to be present in later phases of family life remains a question for future research.

Our findings are also worth considering from the point of view of the content of the two dimensions of daily coparenting, as they seem to set different kinds of processes in motion. Cooperative coparenting, characterized by support, cooperation, and upholding agreed rules in parenting, served slightly more often as a cause and a consequence in the observed processes than tensioned coparenting, characterized by disagreement and hostility between the spouses. Moreover, both the *continuity* process and the *spread* process started from cooperation, while only the *shift* process started from tensioned coparenting. Overall, the processes that started from cooperation seem to be the ones in which the atmosphere of coparenting remained similar. In contrast, in the process that started from tension, the atmosphere of coparenting changed. However, according to our results, it should be noted that none of the observed processes can be considered to be solely beneficial or harmful for the family system; instead, each process can be either, depending on whether the results are interpreted starting from the high or low end of the dimension serving as the predictor. Thus, the processes can either strengthen or weaken family well-being (e.g., Durtschi et al., 2017; Morrill et al., 2010; Teubert & Pinquart, 2010).

These processes found in daily coparenting may stem from various situational factors affecting coparenting. In the life of first-time parents with a newborn, daily situational factors are especially likely to play a major role (e.g., Le et al. 2019; McDaniel et al., 2018; Ranta et al., 2024). For example, sleep disturbances are common and have been shown to impair daily stress management and interaction with one's spouse (e.g., McDaniel & Teti, 2012; McDaniel et al., 2018). Sleep disturbances may weaken the parent's ability to break the harmful cycle (e.g., continuity in low cooperation) or, even rapidly, cause a negative shift in

the coparenting atmosphere. On the other hand, positive situational factors (e.g., success in soothing a crying baby) may give rise to processes in daily coparenting that can be characterized as beneficial for the family. Previous research has shown, for example, that daily recounting one's good experiences with one's spouse enhances the benefits of these experiences (i.e., capitalization) and fosters positive coparenting interactions (e.g., Le et al., 2022). Thus, by spreading good feelings between the spouses, capitalization may help families to maintain continuity in high cooperation or enable a tensioned coparenting atmosphere to be more easily shifted in a more cooperative direction.

Role of Gender in Daily Coparenting Processes

Two of the daily coparenting within-family processes we found were actor effects (Kenny et al., 2006), namely *continuity* in cooperation and *shifting* from tension to cooperation. In turn, the *spread* process was transmitted from one parent to another, indicating a partner effect (Kenny et al., 2006). Thus, the experiences of parents within a family were partly interlinked, as suggested by the coparenting theory (Feinberg, 2003) and family systems theory (Cox & Paley 1997; Minuchin, 1985). The findings therefore highlight the importance of taking the dyadic perspective into account when examining coparenting.

However, we found no differences between mothers and fathers in these processes. This is somewhat surprising given the emphasis on the central role of mother in parenting activities (Kotila et al., 2013), parenting decisions (Murphy et al., 2017), and the development of early coparenting (Van Egeren, 2003) reported in the literature. Instead, our results suggest that mothers and fathers are of equal importance in the dynamics of early coparenting. One explanation could be that the study was conducted in Finland, a country in which gender equality is emphasized. However, countries differ in their emphasis on gender equality, and hence early coparenthood experiences may also vary across countries. This calls for more research on daily coparenting in the transition to parenthood in different countries.

Our finding that the processes between mothers and fathers were similar can also be explained by the participants' relatively high SES and well-being, which may especially be related to parents' awareness about gender equality in parenting and fathers' interest in pondering issues related to coparenting. Indeed, gender-equal coparenting practices have mostly been identified among highly educated middle-class urban parents (e.g., Johansson, 2011). Research is thus needed on possible gender differences in the daily processes of coparenting among less educated parents.

Limitations and Future Directions

The study has its limitations. First, our sample was relatively highly educated, and the quality of coparenting was high, which indicate that our participants were well-functioning new parents. Consequently, it is unclear whether our results can be generalized beyond higher educated first-time parents and new parents whose coparenting seems generally to work well. Second, our study may suffer from limited statistical power related to the small sample size at the couple level ($N = 144$). There was also some missing data, especially for fathers. These issues regarding sample size may have partly contributed to our statistically non-significant findings. However, as the effects of these associations were mostly small or non-existent, we do not consider the small sample size a notable limitation. Third, although the intensive repeated measures research design and use of RI-CLPM modeling enhanced the validity of our investigation, they still only allow us to draw suggestive causal conclusions about daily dyadic coparenting processes (Hamaker et al., 2015). Contextual factors not included in the analyses, such as child behavior, may also have influenced our findings. Moreover, we measured coparenting once a day in the evening before the participants went to bed. Hence, we cannot draw conclusions about fluctuations in coparenting or the causal relationship between the two dimensions within a day. In future studies, more frequent measurements (e.g., several times a day) would enable circular causality to be studied in more detail.

However, this could increase the burden on participants, discouraging their participation or leading to dropout. To overcome these limitations, future studies should find ways of encouraging parents, particularly less educated parents and fathers, to participate more often in research. Moreover, it would be important to examine daily coparenting processes from a triadic perspective (i.e., including the child).

Conclusions

Our study yielded valuable new information on the within-family day-to-day processes of daily coparenting among first-time parents that has several theoretical and clinical implications. Our study confirms that daily coparenting should be seen as a two-dimensional phenomenon (McDaniel et al., 2017), and that the two daily coparenting dimensions seem in part to operate differently in parents' daily lives. Most of the daily processes we found started from cooperative coparenting, meaning that cooperative coparenting was more often a cause in the observed processes than tensioned coparenting. Thus, cooperative coparenting, including support, cooperation, and upholding rules, should be emphasized more in, for example, family services, as it seems to have a significant effect on the everyday life of new parents. Similarly, we propose that interventions could focus on enhancing cooperative coparenting. One useful tool could be the capitalization process (i.e., spouses sharing of personal good news), which has been shown to be associated with greater coparenting support (Le et al., 2022). Together with our results, this implies that a relatively small intervention emphasizing cooperation in coparenting and capitalization could achieve potentially large changes in new parents' satisfaction with their coparenting. This is important, as well-functioning coparenting has been shown to boost family well-being (e.g., Durtschi et al., 2017; Morrill et al., 2010; Teubert & Pinguart, 2010).

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